# 13.0 Naturita, Colorado, Disposal Site

## 13.1 Compliance Summary

The Naturita Disposal Site, inspected on July 10, 2003, was in excellent condition. Global positioning system (GPS) equipment was used to determine the coordinates of several incorrectly mapped site surveillance features. Noxious weeds persist at the site and require ongoing control. No requirement for a follow-up or contingency inspection was identified.

## 13.2 Compliance Requirements

Requirements for the long-term surveillance and maintenance of the Naturita, Colorado, Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I disposal site are specified in the *Long-Term Surveillance Plan for the Upper Burbank Disposal Cell, Uravan, Colorado* (DOE/AL/62350−250, Rev. 1, U.S. Department of Energy [DOE], Albuquerque Operations Office, July 1999) and in procedures established by the DOE office at Grand Junction to comply with requirements of Title 10 *Code of Federal Regulations* Part 40.27 (10 CFR 40.27). These requirements are listed in Table 13–1.

*Table 13–1. License Requirements for the Naturita, Colorado, Disposal Site*

| Requirement | Long-Term Surveillance Plan | This Report |
|---|---|---|
| Annual Inspection and Report | Section 3.1 | Section 13.3.1 |
| Follow-up or Contingency Inspections | Section 3.4 | Section 13.3.2 |
| Routine Maintenance and Repairs | Section 4.0 | Section 13.3.3 |
| Ground Water Monitoring | Section 2.6.2 | Section 13.3.4 |
| Corrective Action | Section 5.0 | Section 13.3.5 |

## 13.3 Compliance Review

### 13.3.1 Annual Inspection and Report

The site, located west of the former community of Uravan, Colorado, was inspected on July 10, 2003. Results of the inspection are described below. Features and photograph locations (PLs) mentioned in this report are shown on Figure 13–1. Numbers in the left margin of this report refer to items summarized in the Executive Summary table.

#### 13.3.1.1 Specific Site Surveillance Features

**Access Road, Fence, Entrance Gates, and Signs**—Access to the site entrance gate is gained from Montrose County Road EE22. The graveled county road was in good condition.

A barbed wire stock fence surrounds the site. The entrance gate is a pair of tubular metal gates suspended from galvanized steel gateposts. A chain with a padlock secures the two gates together. Two other metal gates allow access to monitor wells adjacent to the disposal cell on the west. The fence and all gates were in excellent condition.

The site has 25 perimeter signs and one entrance sign. Perimeter signs are on galvanized steel posts approximately 5 feet inside the perimeter fence. One sign (P2) has bullet holes but was legible. The other signs were in excellent condition. Several perimeter signs on the west side of the site were incorrectly positioned on the inspection drawing and their actual coordinates were determined using GPS equipment; the site map was updated and Figure 13–1 shows the correct locations.

**Site Markers and Monuments**—The two granite site markers were undisturbed and in good condition.

The site property boundary has 17 corners, which are marked by boundary monuments or survey monuments. Three survey monuments (SM−3, SM−4, and SM−11) are used in lieu of boundary monuments. Survey monuments were installed during site construction for survey control; boundary monuments were installed after completion of construction. All boundary and survey monuments were undisturbed and in good condition. The boundary monuments on the west side of the site were incorrectly positioned on the inspection drawing and their actual coordinates were determined using GPS equipment; the locations shown on Figure 13–1 are correct.

**Monitor Wells**—The ground water monitoring network has five wells. All wells were locked and in excellent condition.

### 13.3.1.2 Transects

To ensure a thorough and efficient inspection, the site was divided into five areas referred to as transects: (1) the riprap-covered top slope and side slopes of the disposal cell; (2) the riprap-covered toe drains and toe drain outlets; (3) the riprap-covered interceptor channel; (4) the reclaimed areas surrounding the disposal cell (including the site perimeter); and (5) the outlying area.

**Top of Disposal Cell and Side Slopes**—Rock covers the 2-acre top of the disposal cell and the approximate 8 acres of side slopes. The rock is rounded, with larger rock on the side slopes than on the top. The rock showed no signs of degradation and no vegetation was evident. No evidence of subsidence, differential settlement, slumping, or other modifying process was noted.

**Toe Drains and Outlets**—Two riprap-filled toe drains collect water from the cell side slopes and divert it to the southeast. The toe drain on the western side of the cell exits through a channel quarried through the wall of the Burbank Pit and into a deep canyon leading to the San Miguel River. Some sediment has accumulated in the upper end of the western toe drain. The eastern toe drain exits through the adjacent UMETCO UMTRCA Title II disposal site and crosses beneath County Road EE22 through five culverts. Some erosion of loose material has occurred in the toe drain outlets, but the underlying sandstone bedrock (PL–1) limits further erosion. Patches of noxious weeds (halogeton and Russian knapweed) were found adjacent to the toe drain outlets; the weeds will be sprayed with herbicide in 2004.

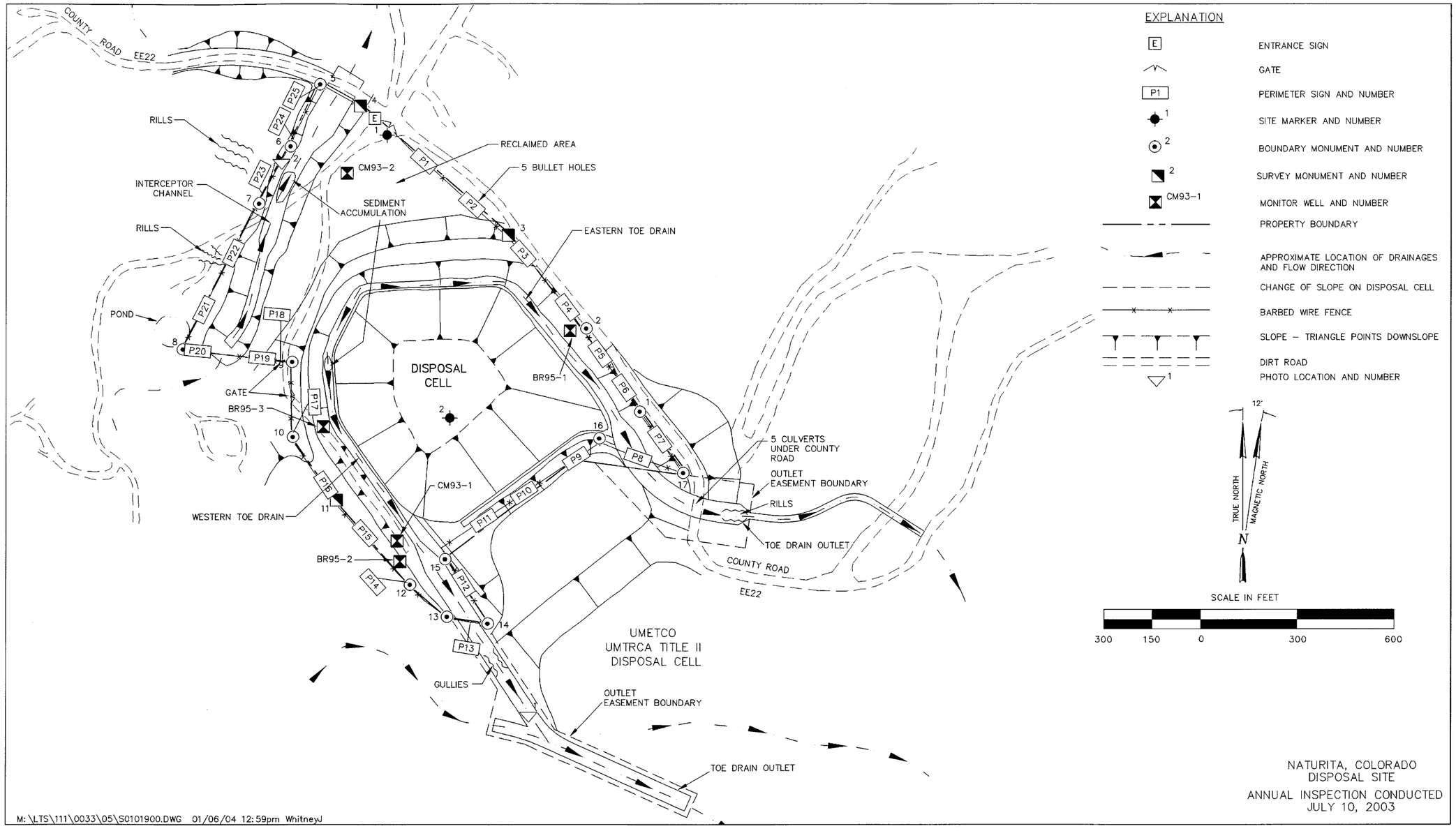


*Figure 13–1. 2003 Annual Compliance Drawing for the Naturita, Colorado, Disposal Site*

13A The U.S. Bureau of Land Management right-of-way permits for the toe drain outlets (the drains extend beyond the property boundary), originally set to expire in 2004, were modified as perpetual easements in 2003. The surveyed easement boundaries are shown on Figure 13–1.

**Interceptor Channel**—A riprap-armored interceptor channel, northwest of the disposal cell, diverts storm water and snowmelt run-on to the east across County Road EE22. Some erosion has occurred outside the property uphill from perimeter sign P23 resulting in deposition of sediment in the channel (PL–2). Otherwise, the channel was in excellent condition and the accumulated sediment does not impair the function of the channel. No culvert was installed where the channel crosses the road, so the road could be damaged when storm water exits the channel. Halogeton was observed near the upstream end of the channel and will be sprayed with herbicide in 2004.

**Reclaimed Areas—**The disturbed area north of the disposal cell and south of the interceptor channel was seeded at construction completion. Vegetation cover consists of grasses, shrubs, and annual weeds. A storm water discharge permit, which addressed this area and the restored Club Mesa borrow area to the north, has been closed with regulator concurrence.

**Outlying Area**—The site boundary and the area within 0.25 mile of the site boundary have been highly disturbed by mining, quarrying, and road building activities. UMETCO is continuing to work on their tailings pile across County Road EE22 east of the site. UMETCO's completed UMTRCA Title II disposal cell abuts the Naturita disposal cell on the southeast.

Cotter Corporation reclamation activities were conducted on the slope along the west side of the property in the past year; these activities did not impact the disposal site. Minor erosion has occurred in an area uphill from perimeter sign P23 due to runoff from areas disturbed by UMETCO activities; this area will continue to be monitored.

### 13.3.2 Follow-Up or Contingency Inspections

No follow-up or contingency inspections were required in 2003.

### 13.3.3 Routine Maintenance and Repairs

No maintenance or repairs were required in 2003.

### 13.3.4 Ground Water Monitoring

**Monitor Wells**—DOE monitors ground water at the site to demonstrate the initial performance of the disposal cell. The compliance strategy is to meet maximum concentration limits (MCLs)
13B established in Table 1 to Subpart A of 40 CFR 192 or background levels in a point of compliance well (CM93−2) in the uppermost aquifer (Wingate Formation) downgradient from the disposal cell. The Wingate Formation lies approximately 600 feet beneath the disposal cell and is hydrologically isolated from the surface by unsaturated sandstone and relatively impermeable shale layers of the Salt Wash Member of the Morrison Formation and the Summerville Formation, respectively.

Best management practice monitoring will be performed in three shallower monitor wells (BR95−1, BR95−2, and BR95−3), completed at the contact between the Salt Wash Member and the Summerville Formation, to provide early warning of possible migration of contaminants into this zone. If contamination suspected to be related to the disposal cell is observed at this horizon, DOE will sample two additional wells (CM93−1 and CM93−2) screened in the uppermost aquifer. Indicator analytes are arsenic, molybdenum, and uranium.

Monitor wells are to be sampled every other year after licensing of the site (1999). Because the wells were sampled in 2002, no sampling was performed in 2003. The need for continued monitoring will be evaluated after the next sampling event in 2004.

### 13.3.5 Corrective Action

Corrective action is action taken to correct out-of-compliance or hazardous conditions that create a potential health and safety problem or that may affect the integrity of the disposal cell or compliance with 40 CFR 192.

No corrective action was required in 2003.

### 13.3.6 Photographs

*Table 13–2. Photographs Taken at the Naturita, Colorado, Disposal Site*

| Photograph Location Number | Azimuth | Description of Photograph |
|---|---|---|
| PL–1 | 325 | Erosion in the western toe drain outlet channel. |
| PL–2 | 145 | Sediment accumulation in the interceptor channel. |


*NAT 07/2003. PL–1. Erosion in the western toe drain outlet channel.*

*NAT 07/2003. PL–2. Sediment accumulation in the interceptor channel.*

End of current section